AMENDMENT TO THE CLAIMS

The listing of the claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A method of interference mitigation by coordinated transmission in a wireless communication system having at least a first transmitter, a second transmitter and a receiver, said receiver being located within a coverage area, said method comprising the following steps:

a) determining a time delay between reception at a predetermined point in said coverage area of a first signal S_1 transmitted from said first transmitter at a first frequency f_1 and a second signal S_2 transmitted from said second transmitter at said first frequency f_1; **and**

b) introducing a transmission delay τ between the transmission of said first signal S_1 and the transmission of said second signal S_2 such that said first signal S_1 and said second signal S_2 are received coherently at said predetermined point, whereby said first signal S_1 and said second signal S_2 are received substantially coherently by said receiver, thereby aiding in interference mitigation.

2. (Original) The method of claim 1, wherein said predetermined point is located at the position of said receiver.

3. (Original) The method of claim 1, wherein said predetermined point is determined by ranging.

4. (Original) The method of claim 1, wherein said coverage area comprises a sector of a cell.

5. (Original) A wireless communication system comprising:

a) means for transmitting a first signal S_1 at a first frequency f_1 and means for transmitting a second signal S_2 at said first frequency f_1;

b) means located in a coverage area for receiving said first signal S_1 and said second signal S_2;

c) means for determining a time delay between reception at a predetermined point in said coverage area of said first signal S_1 and of said second signal S_2; and

d) means for introducing a transmission delay τ between the transmission of said first signal S_1 and the transmission of said second signal S_2 such that said first signal S_1 and said second signal S_2 are received coherently at said predetermined point, whereby said first signal S_1 and said second signal S_2 are received substantially coherently by said means for reception, thereby aiding in interference mitigation.

6. (Original) The wireless communication system of claim 5 employing a multiple access method selected from the group consisting of TDMA, CDMA, FDMA and OFDMA.

7. (Original) In a wireless cellular communication system comprising a receiver and a plurality of base station transmitters comprising a first transmitter and a second transmitter, a method comprising:

a) determining in coordination a first transmission delay for the first transmitter and a second transmission delay for the second transmitter;

b) transmitting from the first transmitter a first signal S_1 at a first frequency f_1 in accordance with the first transmission delay;

c) transmitting from the second transmitter a second signal S_2 at the first frequency f_1 in accordance with the second transmission delay;

wherein the first and second transmission delays are determined in coordination so that the transmitted first signal and the transmitted second signal arrive at the receiver within a time δ of each other, where δ is less than a guard interval length used in the transmitting steps.

8. (Original) The method of claim 7 wherein the first transmission delay is determined from a first distance from the first transmitter to the receiver, and the second transmission delay is determined from a second distance from the second transmitter to the receiver.

9. (Original) The method of claim 7 wherein the first transmitter performs the step of determining the first transmission delay and the second transmission delay; and wherein the method further comprises communicating the determined first transmission delay from the first transmitter to the second transmitter.

10. (Original) The method of claim 7 wherein the first signal comprises a useful signal for the receiver; and wherein the second signal comprises an interfering signal for the receiver.

11. (Original) The method of claim 7 wherein the first transmitter operates in a first cell, and the second transmitter operates in a second cell distinct from the first cell.

12. (Original) In a wireless communication system comprising a receiver and a plurality transmitters, a method implemented at one of the receivers comprising:

a) receiving from at least one of the plurality of transmitters training sequences for useful signals and training sequences for interfering signals;

b) receiving from at least two of the plurality of transmitters the useful signals and the interfering signals;

c) cancelling out the interfering signals using the received training sequences for the useful signals and the received training sequences for the interfering signals.

13. (Original) The method of claim 12 further comprising analyzing an interference between the useful signals and the interfering signals.

14. (Original) The method of claim 12 further comprising feeding back to at least one of the plurality of transmitters a parameter representing a signal quality of the useful signal.

15. (New) A method comprising:

introducing a transmission delay between transmission of a first signal (S_1) from a first transmitter and a second signal (S_2) from a second transmitter, both the first and second signals

transmitted on a common frequency (f_1), wherein the transmission delay introduced between the transmission of the first signal and said second signal cause the signals to be received substantially coherently at a remote receiver to improve interference mitigation therein.

16. (New) A method according to claim 15, wherein the transmission delay is based, at least in part, on one or more transmission channel conditions between each of the first and second transmitter(s) and the receiver.

17. (New) A method according to claim 15, wherein the transmission channel conditions are characterized by measuring a time delay between receipt of the first signal and receipt of the second signal, transmitted substantially simultaneously from the first and second transmitters, respectively.

18. (New) A method according to claim 17, wherein the time delay is measured by a remote receiver, which provides an indication of such delay to a controller of at least said first and second transmitters.

19. (New) A method according to claim 15, wherein the transmission delay is determined based, at least in part, on an indication of a time delay from a receiver of the first and second signals transmitted substantially simultaneously from the first and second transmitters, respectively.

20. (New) A wireless communication system comprising:

at least a first and a second transmitter, to selectively transmit an associated first and second signal, each on a common frequency (f_1); and

a controller, coupled with the first and second transmitters, to develop a transmission delay that when applied to the transmission of the first and the second signals cause the signals to be received substantially coherently at a remote receiver to improve interference mitigation therein.

21. (New) A wircless communication system according to claim 20, wherein the controller develops the transmission delay based, at least in part, on an indication of communication channel parameter(s) provided by the remote receiver.

22. (New) A wireless communication system according to claim 21, wherein the communication channel parameter(s) includes an indication of the time delay between receipt of a first signal and a second signal transmitted substantially simultaneously from the first and second transmitters on the common frequency.

23. (New) A wireless communication system according to claim 20, wherein the transmitters are located in a first wireless communication station and a second wireless communication station, respectively.

24. (New) A wireless communication system according to claim 23, wherein the controller is a base controller station.

25. (New) A wireless communication system according to claim 20, wherein the wireless communication system is a base transceiver station.